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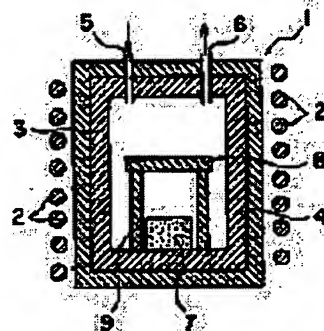
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## (54) NITRIDE SINGLE CRYSTAL AND ITS PRODUCTION

(57)Abstract:

**PROBLEM TO BE SOLVED:** To produce a nitride single crystal having high quality to satisfy the characteristics for practical use and a sufficiently large size to enable the practical use as a bulk material and to provide a process for the easy and efficient production of the single crystal.

**SOLUTION:** A powdery mixture of a nitride powder and an oxide powder or a powdery amorphous nitride is used as a raw material powder 7 and heated in nitrogen atmosphere at a temperature lower than the sublimation temperature or the melting temperature of the nitride to effect the decomposition and evaporation of the nitride powder and the growth of the crystal of the decomposed and evaporated component from the vapor phase on a substrate 8. A large-sized nitride single crystal containing little impurity and having a dimension of e.g.  $\geq 10$ mm in length and width and  $\geq 300\mu\text{m}$  thick or  $\geq 20$ mm long and  $\geq 10\mu\text{m}$  diameter can be produced in a short time.



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